

What is claimed is:

1. A disk cartridge comprising:
 - a frame having a hermetically sealed structure;
 - an optical disk mounted in the frame;
 - 5 a spindle motor for holding the optical disk rotatable;
 - an optical head assembly having:
 - an optical head accessing a surface of said optical disk, and
 - a seeking mechanism for positioning the optical
 - 10 head at a specified track on said optical disk;
 - a cartridge-side connector disposed on said frame; and
 - an optical window mounted on said frame .
2. The disk cartridge of claim 1, further comprising:
 - 15 a light guide member for guiding a light beam through said optical window to said optical head.
3. The disk cartridge of claim 1, further comprising:
 - a reflection plate mounted in the vicinity of said optical
 - 20 window for reflecting a circumference portion of a light beam incident through said optical window, and again passing it through said optical window, and then guiding it outside the disk cartridge.
4. The disk cartridge of claim 1, further comprising a structure that a
 - 25 part of said frame is fitted into a disk cartridge lock mechanism configured to be mounted in an optical disk drive or an optical library.
5. The disk cartridge of claim 4, wherein said structure further comprises a mechanism configured to exhaust said disk cartridge from
 - 30 said optical disk drive or optical library.
6. The disk cartridge of claim 1, further comprising:
 - a filter member for catching particles comprising one of dust, oil mist, vapor and bacteria.
- 35 7. The disk cartridge of claim 1, further comprising:

a lifting mechanism for enabling the optical head to be pulled out from the surface of the optical disk.

8. An optical disk drive comprising:

5 an optical assembly having:

optical elements for a generation and a detection of a light beam used to record and reproduce information, and

10 a mechanism for adjusting a position of the light beam;

a first disk cartridge guide member configured to guide a first disk cartridge to a predetermined position within the optical disk drive;

15 a first disk cartridge lock mechanism configured to hold the first disk cartridge at a predetermined position within the optical disk drive and to exhaust the first disk cartridge outside the optical disk drive; and

20 a first drive-side-connector configured to be fitted into and electrically connected to a cartridge-side-connector on said first disk cartridge.

9. The optical disk drive of claim 8, further comprising:

25 a second disk cartridge guide member configured to guide a second disk cartridge to a predetermined position within the optical disk drive;

a second disk cartridge lock mechanism configured to hold the disk cartridge at a predetermined position within the optical disk drive and to exhaust the second disk cartridge outside the optical disk drive;

30 a second drive-side-connector configured to be fitted into and electrically connected to a cartridge-side-connector on said second disk cartridge; and

35 an optical path switching mechanism for selectively leading the light beam to said first or second disk cartridge.

10. The optical disk drive of claim 9, further comprising:

a mechanism for adjusting a relative position of the light beam according to said first or second disk cartridge.

11. The optical disk drive of claim 9, further comprising:

- 5 a mechanism for moving said optical assembly to a predetermined position corresponding to said first or second disk cartridge.

12. An optical library comprising:

- 10 an accommodation rack for accommodating a plurality of disk cartridges;

an optical assembly having:

- optical elements necessary for a generation and a
detection of a light beam used to record and
5 reproduce information, and

a mechanism for adjusting a position of the light beam;

a moving mechanism configured to move to a position corresponding to one of the disk cartridges;

- 20 a disk cartridge lock mechanism configured to hold the disk cartridges at a predetermined position within the optical library, and to exhaust the disk cartridges outside the optical library; and

- a library-side connector configured to be fitted into and electrically connected to a cartridge-side connector on one of the disk
25 cartridges.

13. The optical library of claim 12, wherein said disk cartridge accommodation rack is configured such that it can be mounted in and detached from the optical library and a part of a frame of said disk
30 cartridge accommodation rack is configured such that it is fitted into said disk cartridge lock mechanism.

14. an optical storage system comprising:

(a) a disk cartridge comprising:

- 35 a frame having a hermetically sealed structure;
an optical disk mounted in the frame;

a spindle motor for holding the optical disk rotatable;
an optical head assembly having:
an optical head accessing a surface of said optical
disk, and
5 a seeking mechanism for positioning the optical
head at a specified track on said optical disk;
a cartridge-side-connector disposed on said frame; and
an optical window mounted on said frame, and

(b) an optical disk drive comprising:

10 an optical assembly having:
optical elements necessary for a generation and a
detection of a light beam used to record and
reproduce information, and
a mechanism for adjusting a position of the light
15 beam;

a disk cartridge guide member for guiding said disk
cartridge to a predetermined position within said optical disk
drive;

20 a disk cartridge lock mechanism holding said disk cartridge
at a predetermined position within said optical disk drive,
and exhausting said disk cartridge outside said optical disk
drive; and

a drive-side-connector fitted into and electrically connected
to said cartridge-side-connector.

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15. The optical storage system of claim 14, wherein said frame of said
disk cartridge further comprises a structure that a part of said frame
is fitted into said disk cartridge lock mechanism.

30 16. The optical storage system of claim 14, wherein said disk
cartridge further comprises a filter member for catching particles
comprising one of dust, oil mist, vapor and bacteria.

17. An optical storage system comprising:

35 (a) a first disk cartridge comprising:
a first frame having a hermetically sealed structure;

a first optical disk mounted in the first frame;
a first spindle motor for holding the first optical disk rotatable;

a first optical head assembly having:

5 an optical head accessing a surface of said first optical disk, and

a seeking mechanism for positioning the optical head at a specified track on said first optical disk;

a first cartridge-side-connector disposed on said first frame;

10 and

a first optical window mounted on said first frame;

(b) a second disk cartridge comprising:

a second frame having a hermetically sealed structure;

a second optical disk mounted in the second frame;

15 a second spindle motor for holding the second optical disk rotatable;

a second optical head assembly having:

an optical head accessing a surface of said second optical disk, and

20 a seeking mechanism for positioning the optical head at a specified track on said second optical disk;

a second cartridge-side-connector disposed on said second frame; and

a second optical window mounted on said second frame; and

25 (c) an optical disk drive comprising:

an optical assembly having:

optical elements necessary for a generation and a detection of a light beam used to record and reproduce information, and

30 a mechanism for adjusting a position of the light beam;

a first disk cartridge guide member for guiding said first disk cartridge to a predetermined position within said optical disk drive;

35 a second disk cartridge guide member for guiding said second disk cartridge to a predetermined position within said

optical disk drive;

a first disk cartridge lock mechanism holding said first disk cartridge at a predetermined position within said optical disk drive, and exhausting said first disk cartridge outside said optical disk drive;

a second disk cartridge lock mechanism holding said second disk cartridge at a predetermined position within said optical disk drive, and exhausting said second disk cartridge outside said optical disk drive;

a first drive-side-connector fitted into and electrically connected to said cartridge-side-connector on said first disk cartridge;

a second drive-side-connector fitted into and electrically connected to said cartridge-side-connector on said second disk cartridge; and

an optical path switching mechanism for selectively leading the light beam to said first or second disk cartridge.

18. The optical storage system of claim 17, wherein said first and second frames further comprises structures that a part of said first and second frame is fitted into said first and second disk cartridge lock mechanism, respectively.

19. The optical storage system of claim 18, wherein each of said first and second disk cartridges further comprises a filter member for catching particles comprising one of dust, oil mist, vapor and bacteria.

20. An optical storage system comprising:

(a) a plurality of disk cartridges, each comprising:

a frame having a hermetically sealed structure;

an optical disk mounted in the frame;

a spindle motor for holding the optical disk rotatable;

an optical head assembly having:

an optical head accessing a surface of said optical disk, and

a seeking mechanism for positioning the optical

- head at a specified track on said optical disk;
a cartridge-side-connector disposed on said frame; and
an optical window mounted on said frame , and
- (b) an optical library comprising:
- 5 an accommodation rack for respectively accommodating said plurality of disk cartridges;
an optical assembly having:
- optical elements for a generation and a detection of
a light beam used to record and reproduce
10 information, and
a mechanism for adjusting a position of the light beam;
- a moving mechanism for moving and holding the optical assembly to and at a position corresponding to one of said
15 disk cartridges;
- disk cartridge lock mechanisms holding said disk cartridges at predetermined positions within said optical library, and exhausting said disk cartridges outside said optical library;
and
- 20 library-side-connectors, each being fitted into and electrically connected to said cartridge-side-connector.

21. The optical storage system of claim 20, wherein each of said frames of said disk cartridges further comprises a structure that a
25 part of said frame is fitted into one of the disk cartridge lock mechanisms.

22. The optical storage system of claim 20, wherein each of said disk cartridges further comprises a filter member for catching particles
30 comprising one of dust, oil mist, vapor and bacteria.